

IN THE SPECIFICATION:

Please amend the specification as follows:

Please insert the following paragraph beginning at page 1, line 3, as follows:

-- This application is a divisional application of copending U.S. patent application number 09/970,826, filed October 5, 2001, which is a continuation of U.S. patent application number 08/857,466, filed on May 16, 1997, now U.S. Patent No. 6,317,479. --

Please substitute the paragraph beginning at page 1, line 12, with the following.

--Semiconductor integrated circuits continue to be minutely downsized in their feature size year by year. Along with this trend, an exposure apparatus for transferring a circuit pattern onto a wafer is required to transfer increasingly minute circuit patterns. For this reason, the wavelength of exposure light used in exposure apparatuses is gradually becoming shorter, and recently, an exposure apparatus using soft X-rays as a transfer means for the most elaborate circuit ~~pattern~~ patterns has been examined.--.

Please substitute the paragraph beginning at page 7, line 21, with the following.

--Fig. 10 is a sectional view of an X-ray mask structure of the ~~10<sup>th</sup>~~ tenth embodiment;--.

Please substitute the paragraph beginning at page 7, line 23, with the following.

--Fig. 11 is a sectional view of an X-ray mask structure of the ~~11<sup>th</sup>~~ eleventh embodiment;--.

Please substitute the paragraph beginning at page 8, line 14, with the following.

--Referring to Fig. 1, an X-ray mask 1 used in this embodiment is a transmission type X-ray mask † in which an Au mask pattern 3 serving as an absorber for absorbing X-rays is formed on a 2-μm thick SiC membrane 2 having an Si substrate as a support member 4.--.

Please substitute the paragraph beginning at page 11, line 19, with the following.

--Note that various methods of loading the X-ray mask 1 into the exposure apparatus are available. However, the present invention is not limited to a specific method as long as a ~~means~~ that means, which can change the pressure in the dust-proof space between the X-ray mask 1 and the mask pattern protection members 5 simultaneously with large changes in pressure of the atmosphere therearound so as to keep the same pressure as that of the atmosphere ~~therearound~~ is used.--.

Please substitute the paragraph beginning at page 15, line 1, with the following.

--On the other hand, a moving means 18 for retreating the mask pattern protection member 16 from the exposure optical path is arranged in the exposure apparatus, and removes the mask pattern protection member 16 from the exposure optical path after the X-ray mask 11 is chucked. At this time, the mask pattern protection member 16 is withdrawn so as not to disturb the alignment adjustment optical path.--.

Please substitute the paragraph beginning at page 17, line 7, with the following.

--It is also effective to arrange a filter, a mesh, or the like on each vent hole 17 to prevent entrance of foreign matter or to arrange a mechanism for adsorbing foreign matter having entered the ventilation channel. Such a structure can also be applied to the pressure adjustment small holes in the mask pattern protection members described in the first embodiment.--.

Please substitute the paragraph beginning at page 18, line 9, with the following.

--In such a state, the X-ray mask 21 is stored in a mask slot 29 in a preliminary evacuation chamber. Inside the preliminary evacuation chamber, lid open/close pins 20 formed on the mask slot are inserted to press the one-end portions of the lids 28, thereby opening the lid 28 (Fig. 4B). Upon evacuating the interior of the preliminary evacuation chamber, the interior of the mask pattern protection member 26 is also evacuated via the vent holes 27, and is kept at the same pressure as that of the atmosphere inside the preliminary evacuation chamber.--.

Please substitute the paragraph beginning at page 21, line 10, with the following.

--Referring to Fig. 5A, a pellicle 35 is attached onto an X-ray mask 31 via a pellicle support member 34, and a mask pattern protection member 36 is attached thereon. Vent holes 37 with lids 38 are formed on the side surfaces of the mask pattern protection member 36, and, for example, the interior of the member 36 is evacuated by opening the lids 38 when the pressure in the exposure apparatus changes due to evacuation, as in the third embodiment.--.

Please substitute the paragraph beginning at page 22, line 26, and ending on page 23, line 3, with the following.

--Not only can the X-ray mask 31 and the pellicle 35 ~~can~~ be prevented from being damaged, but also the interior of the exposure apparatus can be prevented from being contaminated when the X-ray mask 31 or pellicle 35 is damaged.--.

Please substitute the paragraph beginning at page 24, line 5, with the following.

--A rear-side thin film 51 formed on a frame member 50 was mounted on the reinforcing member 44 by an easily detachable adhesive (not shown) to have an interval of 5 mm from the membrane 42. The frame member 50 was formed of Al to have holes 52 for pressure adjustment. Filters for preventing entrance of dust were attached to these holes 52. The rear-side thin film 51 was formed of a polyimide to have a thickness of 0.8  $\mu\text{m}$  as in the front-side thin film 47. The thin films can be attached during an exposure operation.--.

Please substitute the paragraph beginning at page 24, line 16, and ending on page 25, line 13, with the following.

--As described above, since the thin films are mounted on the X-ray mask structure by the easily detachable adhesive to form a dust-proof space, dust can be prevented from directly becoming attached to the mask, and can also be prevented from becoming attached to portions between the adjacent lines of a high-aspect pattern, thus transferring the mask pattern with high precision. Also, the number of times of washing of the mask can be minimized or reduced to zero, and the membrane can be prevented from being damaged or deteriorating due to washing. Even when dust becomes attached to the thin films, dust can be easily inspected by light, and a dust removal process can be easily done by washing or exchanging the thin films. When dust

becomes attached to the rear-side thin film, it often has no influence on exposure depending on its material or size, and the dust removal process need not often be performed. Furthermore, since the polyimide has a higher tenacity than SiC, even when the membrane is damaged, the thin films can serve as scattering prevention films that can prevent the membrane from being scattered. As described above, a high-performance X-ray mask structure which can avoid the influence of dust and is suitable for mass production can be provided.--.

Please substitute the paragraph beginning at page 27, line 11, with the following.

--A 0.4- $\mu\text{m}$  thick DLC (~~Diamond-like~~ Diamond-like Carbon) front-side thin film 47 formed on an Si frame 46 by CVD was mounted on the reinforcing member 44 by an easily detachable adhesive 49 to have an interval of 10  $\mu\text{m}$  from the membrane 42. The flatness of the thin film 47 was controlled to 1  $\mu\text{m}$  or less. Pressure adjustment holes 54 were formed on the reinforcing member 44 on the mask side, as shown in Fig. 9. These holes may be formed on the frame member 46, as in the fifth embodiment. Filters for preventing entrance of dust were attached to these holes.--.

Please substitute the paragraph beginning at page 31, line 26, and ending on page 32, line 18, with the following.

--Fig. 13 shows the overall flow in the manufacture of a semiconductor device. In step 1 (circuit design), the circuit design of a semiconductor device is made. In step 2 (fabricate mask), a mask formed with the designed circuit pattern is fabricated. On the other hand, in step 3 (fabricate wafer), a wafer is fabricated using a material such as silicon. Step 4 (wafer process) is

also called a pre-process, and an actual circuit is formed on the wafer by photolithography using the prepared X-ray mask and wafer. The next step 5 (assembly) is also called a post-process, in which semiconductor chips are assembled using the wafer obtained in step 4, and includes an assembly process (dicing, bonding), a packaging process (encapsulating chips), and the like. In step 6 (inspection), inspections such as operation confirmation tests, durability tests, and the like of semiconductor devices assembled in step 5 are conducted. Semiconductor devices are completed via these processes, and are loaded (step 7).--